

REMARKS

Applicant wishes to thank the Examiner for the attention accorded to the instant application, and respectfully requests reconsideration of the application as amended.

Formal Matters

In this Response, claims 1, 3, 5, 10, 12, 13 are amended to make minor clerical corrections. Claims 15 and 16 are added. Claim 15 recites the limitation of outputting a trouble detection signal when the SIR value calculated does not exceed the SIR threshold value. Support for this claim can be found in the specification on page 31, lines 4-13. Claim 16 recites the limitation of each of the plurality of SIR calculating means calculating the SIR value for a period of calibration until the SIR value calculated exceeds the SIR threshold value; support for this claim can be found in the specification on page 36, line 24 to page 37, line 7.

Applicant thanks the Examiner for acknowledging the claim of foreign priority under 35 U.S.C. 119 (a)-(d), and for review and consideration of the references cited in the Information Disclosure Statement filed with the application on December 20, 2004.

Drawings

Replacement Figure 1 is submitted herewith, to correct a minor error. Specifically, Figure 1 is labeled "Prior Art".

Specification

In the specification, the following paragraphs have been amended to make minor editorial corrections: the paragraph beginning on page 14, line 14, the paragraph beginning on page 16,

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line 14; and the paragraph beginning on page 20, line 11.

Rejection of Claims Under 35 U.S.C. §102

Claims 1-14 are rejected under 35 U.S.C. § 102(b) as anticipated by Azuma, U.S. Patent Application Publication No. 2004/0070533. This rejection should be withdrawn based on the comments and remarks herein.

Among the problems recognized and solved by Applicant's claimed invention is the need for an array antenna receiver device and a calibration method of array antenna reception signals by which optimum calibration can be achieved for all the reception branches. Applicant's inventive array antenna receiver device and calibration method enable calibration at a high precision even if a problem occurs in a reception branch, while minimizing deterioration in reception sensitivity, and not decreasing the number of users in the cellular system. Optimum calibration is achieved by applicant's device which comprises, *inter alia*, a signal to interference ratio (SIR) calculating means which calculates a SIR value and further compares the calculated SIR value with a previously established SIR threshold value so that the calculated SIR value is output only when it exceeds the SIR value threshold.

The Examiner alleges that Azuma's teaching of a SIR detecting portion which estimates SIR value of branches discloses the claim of "a plurality of SIR calculating means". Applicant disagrees.

Azuma discloses a calibration method of an array antenna receiving apparatus in which the radio receiving portion having the best receiving quality is determined based on calibration signals having passed through multiple radio receiving portions. Azuma also discloses a SIR detecting portion provided as a receiving quality detecting portion for selecting the radio receiving portion as a reference branch (page 4, paragraph [0059]). Further, Azuma discloses

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that the SIR detecting portion estimates SIR values and determines SIR estimated values of the branches, and then informs the calibration signal processing portion of the branch having the largest SIR value (page 6, paragraph [0076], Figure 8). Consequently, if all of the branches have problems and all transmit small SIR values, the largest SIR value selected will correspond to a problematic branch.

By contrast, the present invention requires that each selected reception branch exceed a previously established SIR value threshold. Claim 1 recites “a plurality of SIR calculating means each of which extracts and demodulates each calibration signal from an output signal of the multiplexing means to calculate a SIR (Signal to Interference Ratio) value, and further *compares the SIR value calculated with a previously established SIR threshold value thereby to output reception branch information and a demodulation result of the calibration signal only when the SIR value calculated exceeds the SIR threshold value*”. Azuma does not disclose or suggest a previously established SIR threshold value, and does not disclose or suggest outputting reception branch information only when the SIR value exceeds the SIR threshold value. Thus, Azuma does not disclose or suggest all of the features of independent claims 1, 6, 12 and 13.

It has been held by the courts that “Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.” *Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Company et al.*, 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984). As illustrated above, Azuma does not disclose each and every feature of the invention as recited in independent claims 1, 6, 12, and 13. Accordingly, these independent claims are patentably distinguishable over the art of record in the application. Claims 2-5, 11 and 14, as well as new claims 15 and 16, depend from claim 1, and claims 7-10 depend from claim 6, each dependent claim incorporating all of the features and limitations of its

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base claim. Thus the dependent claims are patentably distinguishable over the art of record in the application for at least the reasons that their base claims are patentably distinguishable over the art of record in the application. Therefore, applicant requests that this rejection be withdrawn.

Conclusion

For at least the reasons set forth in the foregoing discussion, Applicant believes that the Application is now allowable, and respectfully requests that the Examiner reconsider the rejection and allow the Application. Should the Examiner have any questions regarding this Amendment, or regarding the Application generally, the Examiner is invited to telephone the undersigned attorney.

Respectfully submitted,



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